

CLAIMS

1. A device comprising:
an internal combustion engine;
an engine control device manually operable to stop operation of the
5 engine;
a fuel tank that provides fuel to the engine; and
a fuel vent closure device automatically operable in response to the
manual operation of the engine control device to substantially seal the fuel tank
when the engine is stopped.
- 10 2. The device of claim 1, wherein the fuel vent closure device is a
valve.
3. The device of claim 1, wherein the fuel vent closure device is
15 mechanically actuated via a linkage.
4. The device of claim 1, wherein the engine control device is also
manually operable to permit start-up of the engine, and wherein the fuel vent
closure device is automatically operable in response to the manual operation of the
20 engine control device to vent the fuel tank.
5. The device of claim 1, wherein the engine control device is coupled
to the ignition circuit and is operable to stop operation of the engine by grounding
the ignition circuit.

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6. The device of claim 1, wherein the engine control device is remote from the engine and wherein the manual operation of the engine control device causes remote actuation of the vent closure device.

5 7. The device of claim 1, wherein the device is a lawnmower.

8. The device of claim 7, further including:
a blade rotatable by the engine; and
a brake automatically operable in response to the manual operation
10 of the engine control device to substantially stop rotation of the blade when the engine is stopped.

9. The device of claim 1, wherein the device is a pressure washer.

15 10. The device of claim 1, wherein the device is a portable generator.

11. The device of claim 1, wherein the device is an automatic backup power system.

20 12. The device of claim 1, wherein the internal combustion engine is a multi-cylinder engine.

13. The device of claim 1, wherein the internal combustion engine is a single-cylinder engine.

14. The device of claim 1, further comprising:
a fuel shutoff device automatically operable in response to the manual operation of the engine control device to substantially block the supply of fuel to the engine when the engine is stopped.

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15. The device of claim 14, wherein the fuel shutoff device is a valve.

16. The device of claim 14, wherein the fuel vent closure device and the fuel shutoff device are combined into a single assembly.

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17. The device of claim 14, wherein the engine control device is also manually operable to permit start-up of the engine, wherein the fuel vent closure device is automatically operable in response to the manual operation of the engine control device to vent the fuel tank and permit engine start-up, and wherein the fuel shutoff device is automatically operable in response to the manual operation of the engine control device to unblock the supply of fuel to the engine and permit engine start-up.

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18. The device of claim 14, wherein the engine control device is remote from the engine and wherein the manual operation of the engine control device causes remote actuation of the vent closure device and the fuel shutoff device.

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19. A device comprising:

an internal combustion engine;

an engine control device manually operable to stop operation of the engine;

5 a fuel tank that provides fuel to the engine;

a fuel shutoff valve automatically operable in response to the manual operation of the engine control device to substantially block the supply of fuel to the engine when the engine is stopped, and

10 a fuel vent closure valve automatically operable in response to the manual operation of the engine control device to substantially seal the fuel tank when the engine is stopped;

wherein the fuel shutoff valve and the fuel vent closure valve are combined into a single housing.

15 20. The device of claim 19, wherein at least one of the valves is a rotary valve.

20 21. The device of claim 20, wherein at least one of the valves is an axial-sealing rotary valve.

22. The device of claim 20, wherein at least one of the valves is an eccentric-wheel valve.

25 23. The device of claim 19, wherein at least one of the valves is a sliding-spool directional-flow valve.

24. The device of claim 19, wherein the at least one of the valves is a poppet valve.

5 25. The device of claim 19, further comprising a linkage coupled between the engine control device, the fuel vent closure valve, and the fuel shutoff valve for mechanically operating the fuel vent closure valve and the fuel shutoff valve in response to the manual operation of the engine control device.

10 26. The device of claim 19, wherein the device is a lawnmower.

27. The device of claim 26, further including:
a blade rotatable by the engine; and
a brake automatically operable in response to the manual operation
15 of the engine control device to substantially stop rotation of the blade when the engine is stopped.

28. The device of claim 19, wherein the device is a pressure washer.

20 29. The device of claim 19, wherein the device is a portable generator.

30. The device of claim 19, wherein the device is an automatic backup power system.

31. The device of claim 19, wherein the internal combustion engine is a multi-cylinder engine.

32. The device of claim 19, wherein the internal combustion engine is a single-cylinder engine.

33. A method of automatically and substantially preventing vapor emissions from a fuel tank communicable with an internal combustion engine, the fuel tank and engine being interconnected with a device having an engine control device operable to stop operation of the engine, the method comprising:

5 operating the engine; and
 manually activating the engine control device to stop operation of the engine and to substantially seal the fuel tank.

10 34. The method of claim 33, wherein the engine control device is interconnected with the ignition circuit and wherein manually activating the engine control device stops operation of the engine by grounding the ignition circuit.

15 35. The method of claim 33, further comprising:
 after stopping the engine, manually activating the engine control device to allow operation of the engine and to vent the fuel tank.

20 36. The method of claim 33, wherein manually activating the engine control device includes automatically activating a fuel vent closure device via a linkage coupled to the engine control device.

25 37. The method of claim 36, wherein manually activating the engine control device further includes automatically activating a fuel shutoff device via a linkage coupled to the engine control device.